File NR CG4-23992(A)C
WR Doc ID 5042297

State of Washington Department of Ecology Office of Columbia River Report of Examination for Change to Trust Water Right

Changed Place of Use
Changed Purpose of Use

PRIORITY DATE	WATER RIGHT NUMBER	TRUST TERM
June 11, 1975	CG4-23992(A)C	Permanent

WATER RIGHT OWNER	PURCHASED FROM
Washington Department of Ecology	Pine Creek Orchards, LLC, Tonasket WA **PURCHASE CONTRACT NO. C1100103**

Purpose and Quantity

Instream flow of the Okanogan and Columbia Rivers,
Ground water preservation within the Okanogan River Valley,
Mitigation to offset new and existing consumptive uses.

Trust Water Right Annual Quantities

Total Annual Quantity of Trust Water Right	Consumptive Portion of Trust Water Right	Return Flow Portion (non-consumptive)
958.4 acre-feet	**625.7 acre-feet***	**332.7 acre-feet**

Instream Flow Rate and Quantities

Period	Secondary Reach	
	Flow (cfs)	**Acre-feet**
01/01 -01/31	0.864	53.14
02/01 -02/28	0.864	48.00
03/01 -03/31	0.864	53.14
04/01 -04/30	0.864	51.43
05/01 -05/31	0.864	53.14
06/01 -06/30	0.864	51.43
07/01 -07/31	0.864	53.14
08/01 -08/31	0.864	53.14
09/01 -09/30	0.864	51.43
10/01 -10/31	0.864	53.14
11/01 -11/30	0.864	51.43
12/01 -12/31	0.864	53.14
ANNUAL TOTAL		**625.7**

*See Provisions section on pages 2 and 3.

Trust Water Right Place of Use

	WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
INSTREAM FLOW PORTION	Okanogan River	Columbia River	Okanogan	WRIA 49
	Columbia River	Pacific Ocean	Chelan, Douglas, Kittitas, Yakima, Grant, Franklin, Benton, Klickitat, Skamania, Clark, Cowlitz, Wahkiakum and Pacific	WRIA's 50, 48, 47, 46, 45, 44, 41, 40, 36, 32, 31, 30, 29, 28, 27, 25, ending within WRIA 24
GROUNDWATER PRESERVATION	Okanogan River Basin Alluvial Aquifer	Okanogan River	Okanogan	WRIA 49

	REACH	WATERBODY	RIVER MI	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
INSTREAM FLOW LOCATION	Begin Secondary	Okanogan River	51	36N.	27E.W.M.	8	E½	48.63478N	119.45868W
	End Secondary	Columbia River	0	9N.	11E.W.M.	18		46.26912N	124.07862W

Latitude/Longitude Coordinates may approximate reach segments. Datum: NAD83

Note: "Secondary reach" means that portion of a water body that benefits only from the former consumptive use of a water right. **There is no primary reach for this instream trust water right.**

Provisions

1. ***225.7 acre-feet** of the consumptive portion of this trust water right is available for mitigation of new or existing uses within WRIA 49 only. Within WRIA 49, future groundwater withdrawals mitigated by this trust water right are limited to those areas within the Okanogan River Valley south of River Mile 56 along the valley floor. Future mitigated groundwater withdrawals downstream of the Janis Rapids monitoring station (River Mile 51) should be restricted to those withdrawals that are in close hydraulic communication with the main stem Okanogan River or main stem Columbia River such that the water withdrawn is primarily from surface water exchange with the river and not from groundwater storage. Surface water diversions mitigated by this portion of the trust water right must be south of Janis Rapids (River Mile 51).

2. ***400 acre-feet** of the consumptive portion of this trust water right is available for mitigation of new or existing uses along the entire secondary reach. The diversion or withdrawal of water for the new or existing uses is restricted to those in close hydraulic communication with the main stem Okanogan River or main stem Columbia River such that the water withdrawn is primarily from surface water exchange with the river and not from groundwater storage.

Findings of Facts and Decisions

Upon reviewing the investigator's report, I find all facts relevant and material to the subject application have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not impair existing rights or be detrimental to the public interest.

Therefore, I ORDER the requested changes of place and purpose of use under Trust Water Right Application No. CG4-23992(A) be approved subject to existing rights and the limitations specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW, Ste. 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

Signed at Yakima, Washington, this day of 2014.

Mark C. Schuppe, Operations Manager
Office of Columbia River

INTESTIGATOR'S REPORT
Application for Change of Water Right – Pine Creek Orchards LLC
Trust Water Right Control Number CG4-23992(A)C
Patricia Kirk, Department of Ecology

BACKGROUND

On December 7, 2011, Mr. Martin Pitney of Pine Creek Orchards LLC submitted an application to the Washington Department of Ecology (Ecology) to permanently change the purpose and place of use of water allocated under Ground Water Certificate G4-23992(A)C, to Ecology's Trust Water Right Program (TWRP) in conjunction with a Purchase Agreement (Contract No. C1100103). The application was accepted and assigned Water Right Change Application Number CG4-23992(A)C. The original place of use and points of withdrawal for Water Right G4-23992(A)C are located west of the Town of Tonasket in Okanogan County, within Water Resource Inventory Area (WRIA) 49. The proposed changes to the purpose and place of use include groundwater preservation within the unconsolidated sediments underlying the Okanogan River Valley, instream flow enhancement in the Okanogan and Columbia Rivers, and mitigation for new and existing consumptive water uses.

After the application was accepted, Ecology purchased Ground Water Right G4-23992(A)C and acquired a quit claim deed from Mr. Martin Pitney. Though the original application for trust was submitted by Mr. Martin Pitney, Ecology's intent is to continue to pursue the application's original objectives.

This Report of Examination (ROE) addresses the attributes of Ground Water Certificate G4-23992(A)C; its historic use including a determination of the consumptive portion of that use; an examination of the proposed future uses with an accompanying geologic and hydrogeologic analysis; and considerations of public interest, beneficial use and impairment associated with the proposed changes.

Attributes of the Existing Water Right and Proposed Change

Table 1

Attributes	Existing	Proposed
Name	Pine Creek Orchard Partnership c/o Martin Pitney et al.	Washington Department of Ecology Trust Water Program
Priority Date	June 11, 1975	No change
Instantaneous Quantity (total)	1,208 gallons per minute	No change
Annual Quantity (total)	958.4 acre-feet per year	No change (Only consumptive portion will be available for use as mitigation)
Source	3 Groundwater wells	Okanogan River and local groundwater aquifer
Locations of Points of Withdrawal	All 3 wells are located within Section 17,T. 37N., R.27E.W.M., (See description below)	N/A
Purpose of Use	Irrigation of 239.6 acres	Instream flow enhancement, groundwater preservation and mitigation for new or existing water uses.
Period of Use	April 1 to October 1	**For Instream Flow** Year around **Ground Water Mitigation** April 1 to October 1 (Between River miles 51 and 56 on the Okanogan River) Year around (Downstream of River mile 51 on the Okanogan River)
Place of Use (POU)	Portions of Sections 7, 8, 17, and 18 within T. 37N., R.27E.W.M., (See complete description on attachment A)	The groundwater aquifer in close hydraulic communication with the Okanogan River and the Columbia Rivers AND: The Okanogan River to its confluence with the Columbia River, and the Columbia River to its confluence with the Pacific Ocean.

Locations of Original Points of Withdrawal

Well No. 1: 800 feet north and 163 feet west from the S¼ corner of Section 17;
Well No. 2: 780 feet north and 27 feet east from the S¼ corner of Section 17;
Well No. 3: 2,278 feet north and 5 feet west from S¼ corner of Section 17;
All in Township 37 North, Range 27 E.W.M., Okanogan County, Washington.
(These wells are also referred to as wells P1, P2, and P3 respectively on many documents related to Water Right Permit G4-23992P and the three resulting Certificates.)

Legal Requirements for Proposed Change

Ecology has authority to make changes to the purpose and place of use of a water right under the following statutes so long as all requirements stated therein are met prior to authorizing the requested change(s).

Statement of Authorities

- RCW 90.03.380 provides authority for Ecology to make changes to existing water rights if such changes can be made without detriment or injury to existing water rights.
- RCW 90.44.100 provides authority for Ecology to change the manner or place of use of a groundwater right when the following conditions have been met: there is no enlargement of the water right to be changed, other existing water rights are not impaired, the water has been and will be put to beneficial use, is in the public interest, and the change is within the same body of groundwater.
- RCW 90.42.080 gives Ecology the authority to acquire existing surface or groundwater rights for the TWRP for the purpose of instream flows, groundwater preservation and/or mitigation for instream and out-of-stream uses.

This application qualifies for processing under RCW 90.03.380(5)(b) and WAC 173-152-035(6)(d)(iv). Since this is a change application to an existing water right and involves a tributary to the Columbia River, Ecology has the discretion to prioritize its work load to maximize public benefit.

Public Notice

Public notice was made pursuant to RCW 90.03.380 and RCW 90.42.040(5)(a) in several newspapers of general circulation within the Okanogan and Columbia River basins (Table 2). An error was found on the date protests were to be received by and a second notice was published. The second 30-day protest period ended on March 2, 2012. No protests were received. A neighbor of the property, Richard Harris inquired about the future use and management of the Trust Water.

RCW 90.42.040(5)b also requires that before a trust water certificate can be created, "the department shall send a notice containing pertinent information to all appropriate state agencies, potentially affected local governments and federally recognized tribal governments, and other interested parties." The department provided the required notice on January 4, 2012.

Table 2-Public Notices

County	Newspaper	County	Newspaper	County	Newspaper	County	Newspaper
Benton & Franklin	Tri-City Herald	**Chelan & Douglas**	The Wenatchee World	**Clark**	The Columbian	**Cowlitz**	The Daily News
Ferry	Republic News Miner	**General Eastern Washington**	Spokane Spokesman Review	**Grant**	Columbia Basin Journal	**Kittitas**	Daily Record
Klickitat	Goldendale Sentinel and White Salmon Enterprise	**Lincoln**	Davenport Times	**Okanogan**	Okanogan County Chronicle	**Pacific**	Chinook Observer
Skamania	Skamania County Pioneer	**Stevens**	Colville Statesman Examiner	**Wahkiakum**	Wahkiakum County Eagle	**Walla Walla**	Walla Walla Union Bulletin
Yakima	Yakima Herald Republic						

State Environmental Policy Act (SEPA)

In accordance with WAC 197-11-800(4), WAC 197-11-305 and RCW 43.21.C030 (2)(c) , this water right change application is categorically exempt from environmental review under SEPA. The quantity of water that is under consideration for this change to trust water is less than the 2,250 gpm threshold.

INVESTIGATION

When considering this application, the investigation included, but was not limited to, research and/or review of:

- The State Water Code, administrative rules, and policies.
- Water right documents associated with the parent water right permit G4-23992P; the three subsequent Certificates of Water Right; G4-23992(A)C, G4-239929(B)C, and G4-23992(C)C and the associated water service agreement for the joint water system.
- Other Water Right documents associated with the place of use for G4-23992(A)C.
- Washington Irrigation Guide (WIG).
- Aerial Photographs of the place of use.
- Topographic and geologic maps of the area.
- Department of Ecology Guidance, GUID 1210.
- Conversations with Ecology staff and Mr. Martin Pitney of Pine Creek Orchards LLC.
- May 24th, 2012 Technical Report containing geology and hydrogeology of the Okanogan River Valley prepared by a staff licensed hydrogeologist for this application.

History of Water Use

The initial parent ground water permit was issued on May 11, 1976 to Mr. Wilbur G. Hallauer with a priority date of June 11, 1975 for up to 3,800 gallons per minute (gpm), 2,650 acre-feet per year from three wells for the irrigation of 576 acres from April 1 to October 1 each year. The place of use included lands within the NE¼ of Section 19, the E½ of Section 18, the W½ and NE¼ of Section 17, the SW¼ of Section 8, the E½ of Section 7 and the SE¼ of Section 6, all within T. 37N., R.27E.W.M.

The permit was assigned to Tonasket Terrace Inc. on December 22, 1977.

On May 3, 1983, Raymond E. Colbert, permit holder for Tonasket Terrace Inc., filed an application to change a point of withdrawal authorized under Groundwater Permit No.G4-23992P. A Superseding Permit was issued July 31, 1986. A new well location replaced the original well #1 indicated on the

original groundwater permit. The priority date, permit number, water quantities, and place of use remained unchanged.

The Superseding Permit was assigned back to Mr. Wilbur G. Hallauer on November 15, 1994.

On March 17, 1995, a subsequent Superseding Permit was issued to Mr. Wilbur G. Hallauer dba Tonasket Terrace Venture after the locations of the three wells were finalized and the water quantities limited to 2900 gpm, 2304 acre-feet per year. The irrigated acreage to be perfected remained at 576 acres; however, approximately 200 additional acres were added to the place of use to allow more flexibility to the final location of the proposed 576 irrigated acres.

A final Superseding Permit was issued on June 14, 1996 after errors were found in the place of use description in the previous Superseding Permit. The final Superseding Permit was assigned from Mr. Wilbur G. Hallauer to Pine Creek Orchards LLC, a Washington partnership, in September of 1998. Mr. Martin Pitney of Pine Creek Orchards LLC filed a Completion of Construction form in January of 2004 and a Proof of Appropriation form on October 1, of the same year.

In 2007, two portions of the place of use (POU) described on the final Superseding Permit where sold, one to Armando Rosas and the other to Ernesto Palomares creating three distinct land owners within the POU. Since the three wells and irrigation system were interconnected throughout the POU, a water service agreement was established between Pine Creek Orchards LLC, Armando Rosas and Ernesto Palomares and a portion of groundwater permit G4-23992P was assigned to each new land owner. Armando Rosas and Ernesto Palomares' properties returned to the mortgaging bank (North Cascades National Bank) and were subsequently sold at auction to ARSH LLC in December of 2009. ARSH LLC was assigned Armando Rosas and Ernesto Palomares' portions of the permit and the water service agreement in March of 2010. This report is only concerned with that portion assigned to Pine Creek Orchards LLC.

On February 18, 2010, Ecology completed a Proof Examination for Groundwater Permit G4-23992P with an onsite visit to each of the three properties and well sites. The extent to which each place of use had been developed for the irrigation of orchard and/or other crops was investigated as well as the irrigation methods, and delivery system. The following three adjacent groundwater certificates resulted.

Table 3 - Water Right Certificates Resulting from G4-23992P

Certificate No.	Name of Owner	Maximum Qi	Maximum Qa	Purpose of use	Irrigated Acres
G4-23992(A)C	Pine Creek Orchards LLC	1,208 gpm	958.4 acre-feet	Irrigation April 1 to Oct. 1	239.6
G4-23992(B)C	ARSH LLC	862 gpm	689.6 acre-feet	Irrigation April 1 to Oct. 1	172.4
G4-23992(C)C	ARSH LLC	830 gpm	656 acre-feet	Irrigation April 1 to Oct. 1	164

Three interconnected wells supply water to all three places of use. Well No. 1 is used as a backup to Well Nos. 2 and 3. The combined instantaneous withdrawal rate for these three wells is provisioned not to exceed 2,900 gpm, 2,304 acre-feet per year to irrigate 576 acres as the final superseding permit stated. Each certificate is provisioned with the following limitations on each well:

- Well No. 1: (P1) cannot exceed 500 gpm and 440 acre-feet per year to irrigate 188 acres.
- Well No. 2: (P2) cannot exceed 1,400 gpm and 1,120 acre-feet per year to irrigate 280 acres.
- Well No. 3: (P3) cannot exceed 1,500 gpm and 1,184 acre-feet per year to irrigate 296 acres.

It should be noted and recognized that the original water right permit issued on May 11, 1976, to Mr. Wilbur G. Hallauer predated the Family Farm Act, and therefore, did not include the Family Farm Provision that was put on the subsequent superseding permits erroneously. Since the original permit was issued before the enactment of the Family Farm Act it was not included on the final Certificates of Water Right and does not apply (RCW 90.66.020).

A purchase and sale agreement to transfer the ownership of Ground Water Right G4-23992(A)C to Ecology was agreed to and signed by Mr. Martin Pitney and Ecology in January of 2011. The deed for the water right was acquired by Ecology and signed on July 27, 2012. At present, the other two certificates of water right ("B" and "C" portions) that resulted from the original groundwater permit are appurtenant to land now owned by Samra Farms LLC.

Tentative Determination/Validity and Extent

The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of validity and extent of the claim or right. This is necessary to establish whether the claim or right is eligible for change. *R.D. Merrill v. PCHB and Okanogan Wilderness League v. Town of Twisp.*

Ground Water Certificate G4-23992(A)C was issued to Pine Creek Orchards LLC on August 16, 2010 after a Proof Examination was completed by Ecology in February of that year. A Certificate of Water Right was issued to Pine Creek Orchards LLC based on the observations and quantities reported by the field examiner. Those quantities can be found in **Table 1**.

Based on *Water Resources Program Policy 1120(5)(a),* the validity and extent determination requirement for this change to a trust water right was met as a product of the proof examination done in 2010. The consumptive portion of the water allocated under this water right certificate is quantified within the **Proposed Use** section of this report.

Other Rights Appurtenant to the Place of Use

A review of Ecology's records and database revealed that two other water right documents are appurtenant to the original POU for this application for change to the TWRP; Surface Water Permit S4-23948 for the irrigation of 541 acres and Groundwater Application G4-32768 for a group domestic supply, both in the name of Pine Creek Orchards LLC. Surface Water Permit S4-23948 was intended to be a non-additive water supply to Ground Water Permit G4-23992P diverting water directly from the Okanogan River. No actual development of the pump system was ever completed and the last extension for completion of the project expired July 31, 2007. Permit S4-23948 has since been canceled, as agreed to by Mr. Martin Pitney. Ecology understands that Mr. Martin Pitney will pursue the group domestic project and would like the application to remain active.

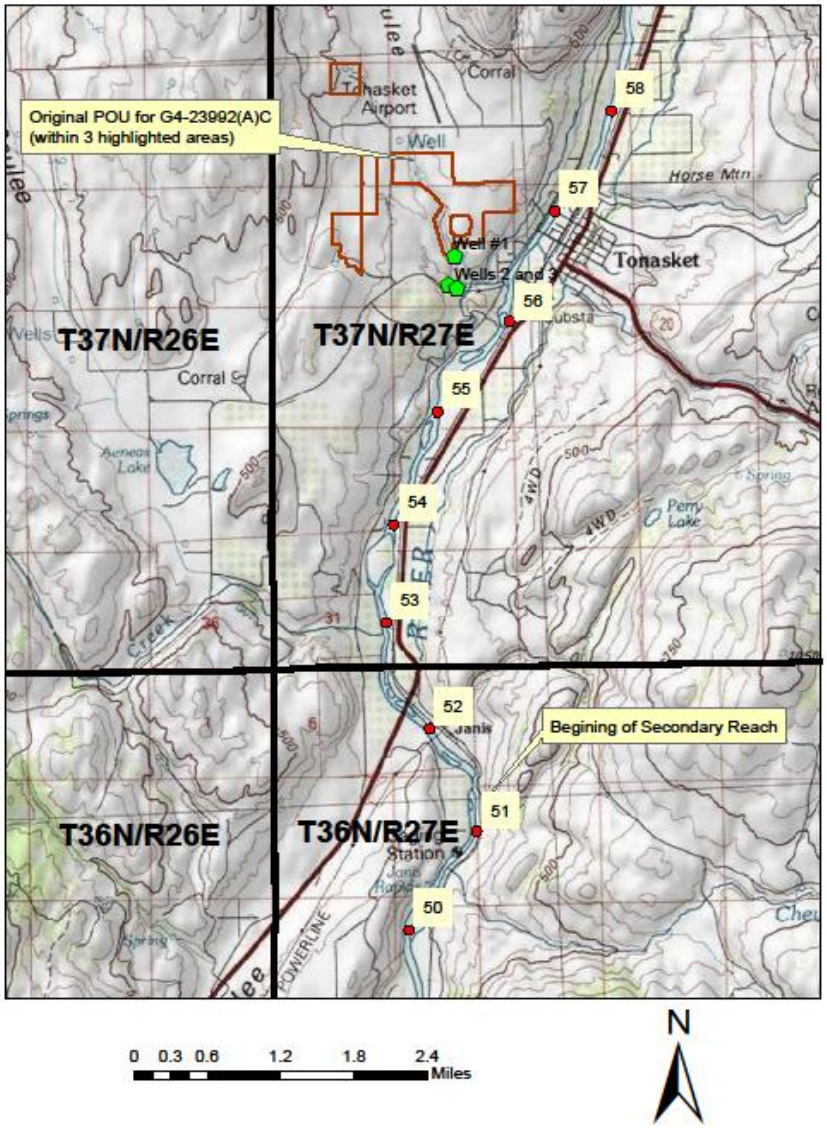
Proposed Purpose and Place of Use

The intent of this change application is to convert Groundwater Right G4-23992(A)C to a trust water right in the state's TWRP, for the purpose of groundwater preservation, instream flow enhancement of the Okanogan and Columbia Rivers, and/or mitigation for new or existing consumptive surface water diversions and groundwater withdrawals. That portion of this water right available for use as mitigation is the consumptively used portion of the right prior to transfer into the TWRP (RCW 90.42.040(d)). *Consumptive use* is defined as the estimated or actual annual amount of water diverted pursuant to the water right, reduced by the estimated annual amount of return flows.

As described in Ecology Water Resources' *Guidance 1220*, the place of use of a trust water right for instream flows is defined within a primary reach and a secondary reach of a stream or river as applicable. The primary reach is the portion of a water body that benefits from both the former consumptive use and return flow waters associated with a water right. It is the reach between the original diversion/withdrawal point and the point where the last return flows re-enter the stream or river. The secondary reach is the portion of a water body that received return flow waters while the water right was exercised for its original purpose. The secondary reach is located downstream from the point where return flows from the historic use under the water right re-entered the stream or river. *Guidance 1210* defines return flow as, "the sum of deep percolation and runoff that returns to waters of the State or would return to waters of the State but is intercepted by a water user."

The place of use for groundwater preservation trust water rights is defined as the body of public groundwater from which the original right entitles water use. [RCW 90.42.040 (2)]

Pinecreek Orchards Original POU
Trust Water Application CG4-23992(A)C



Hydrogeology of the Okanogan River Drainage

A discussion and analysis of the complex geologic and hydrogeologic character of the Okanogan River Valley is found in a technical report, dated May 24th, 2012, prepared by Ron Dixon, a licensed Ecology hydrogeologist. The report describes the historic glacial and depositional features that characterize the valley and the corresponding hydrogeology that determines the groundwater and surface water flow within the Okanogan River Basin. It also provides recommendations for where this trust water right can be considered instream; that is, at what location on the Okanogan River the groundwater no longer pumped from the wells will contribute to river flow, and where the water in trust is available to mitigate new or existing groundwater and surface water uses.

The three wells for Ground Water Certificate G4-23992(A)C are located approximately one-half mile to the west of the Okanogan River and due west of the Town of Tonasket in the northern Okanogan River Valley. Well P1 is 407 feet deep, well P2 is 480 feet deep and well P3 is 525 feet deep. According to the well logs on file with Ecology, all three wells are screened near their bottoms in a layer of sand and gravel that is overlain by a relatively thick sequence of fine-grain sands, silts, and clays.

In summary, the report characterized the geology throughout the Okanogan River Valley as metamorphic bedrock overlain by unconsolidated pre-glacial, glacial, and post-glacial sediments that fill the valley floor and the adjacent coulees. Using data from available well logs throughout the basin, Ron Dixon found the thickness of the sediments ranged from 68 feet to 485 feet deep with an average depth of 206 feet. He states that,

> "…water producing zones or layers within these sediments, usually comprised of sands and gravels, are often confined or semi-confined by fine-grained sediments (clays, silts, and fine sand) which have a much lower hydraulic conductivity. The extent, both horizontal and vertical, of these fine-grained sediments plays a major role in how groundwater moves through the aquifer system and how the groundwater interacts with the surface water. These low hydraulic conductivity (low-K) sediments can limit groundwater flow and greatly increase the time it takes for groundwater to move through the system and discharge to surface water bodies. In addition, the distribution of fine-grained sediments can play a role in where discharge and recharge areas occur."(See Hydrogeology report p.5)

Primary Reach Location

The primary reach for a trust water right is that reach of a stream or river that benefits from both the previously consumed water and return flows from irrigation. For this groundwater right, it is difficult to identify specific locations where return flows and un-pumped groundwater would discharge to the Okanogan River. According to the technical report, un-captured groundwater from the original well locations may fully discharge to the river by River Mile 51 based on the confining bedrock morphology. However, River Mile 51 is five miles downstream of the place of use (POU) and very likely farther downstream on the river from where the return flows discharged to the river. There is no stretch of the Okanogan River that can be shown to have added benefit from both the former return flow and consumptively used water. Therefore, a primary reach cannot be identified for this groundwater right.

Secondary Reach Location

The secondary reach is that reach of a river that only benefits from the previously consumed water of a water right. Ron Dixon, in his report, was able to provide a recommendation for the beginning of the secondary reach downstream of the subject well locations. Four miles south of Tonasket at River Mile 51 (just north of Janis Rapids) a hydraulic pinch point occurs, created by a narrowing of the valley and shallow bed rock. Groundwater approaching this location is forced to flow close to or at the surface by the underlying bedrock as it flows generally south. He concludes that this is the most reasonable

location for the subject water right to contribute to the river's volume of flow, and it would include both the former consumptive and return flow portions of the right.

Therefore, the secondary reach will begin just north of Janis Rapids at River Mile 51 and continue down the Okanogan River to its confluence with the Columbia River. The secondary reach will continue down the Columbia River to its mouth at the Pacific Ocean.

Mitigation Use Recommendations

For the purpose of defining the areas where new groundwater withdrawals and surface water diversions can be mitigated with this trust water, Ron Dixon provides the following recommendation:

> …it is recommended that this groundwater right transfer not be used for mitigation up gradient of the current withdrawal's discharge area which appears to occur between river mile 56 south of Tonasket and river mile 51 just north of Janis Rapids. In addition, future mitigated surface diversions downstream of the Janis Rapids monitoring station should be restricted to the main stem Okanogan River and Columbia River. Similarly, future mitigated groundwater withdrawals downstream of the Janis Rapids monitoring station should be restricted to those withdrawals that are in close hydraulic communication with the main stem Okanogan River or main stem Columbia River such that the water withdrawn is primarily from surface water exchange with the river and not from groundwater storage. (See referenced Hydrogeologic Report p. 18).

In addition, the discharge to the river of the un-pumped groundwater resulting from this trust water right will likely be gradual and continuous; in contrast to how the water was originally withdrawn from the aquifer between April and October. The distance of the wells from the beginning of the secondary reach, and the aquifer attributes over distance and depth all combine to moderate the flow of this trust water in the aquifer and its contribution to instream flow. The timing of the discharge to the river cannot be easily quantified and is therefore assumed to be a constant rate over time.

Consumptive Use Calculations

The Pine Creek Orchard LLC, irrigated property totaling 239.6 acres, had been planted with 80.5 acres of micro spray irrigated orchard (mostly apples and some pears) with a grass cover crop, and 159.1 acres of alfalfa. The alfalfa was added to the east of the orchard after the 2004 irrigation season and was irrigated with handline mounted sprinklers.

To calculate the *consumptive quantity* (CU) of water for this water right, *crop irrigation requirements* (CIR) values and *irrigation efficiencies* (Ea) were determined using the Washington Irrigation Guide (WIG), and Water Resources Guidance GUID 1210, *Determining Irrigation Efficiency and Consumptive Use*. Flow meter data for the 2004 irrigation season from the 3 wells was used to estimate the average efficiency for the irrigation system for the entire orchard that existed at the time under permit G4-23992P. Water use data was not available for each of the three individual certificates due to the combined water system. A value of 67% was calculated, though the value for micro spray systems in the WIG is typically higher, averaging 85%. The calculated value is not unreasonable, however. The water meter data supplied by the permit holder appeared complete and the irrigated acreage was measurable on aerial photos for the 2004 irrigation season. Unfortunately, all other years of water meter data were incomplete and could not be used. Power records did not prove useful since booster pumps were often used within the irrigation system. The entire orchard had reportedly been removed in May and June of 2009 due to disease. Replanting of the orchard was planned however, at the time of the proof exam in early 2010, this had not been accomplished.

Average irrigation efficiency for a handline mounted sprinkler irrigation system is estimated to be 75% according to the WIG. Since little information was available concerning the irrigation practices used on the portion of the property planted with alfalfa, average efficiency was assumed for calculating the consumptive use.

The average CIR values from the WIG for apples and alfalfa were used to estimate the consumptively used water. The CIR values where a result of data collected near the town of Omak (the closest and most similar climate location to the POU). The total irrigation requirement (TIR) and subsequently the CU is calculated using the irrigation efficiency estimates and the following formulas from GUID 1210.

- CIR for apple orchard with cover crop = 31.67 inches annually.
- CIR for alfalfa = 25.39 inches annually
- TIR = CIR ÷ Estimated irrigation system application efficiency (Ea)
- CU = TIR × (% CU based on the type of irrigation system) × Acres

Table 4 – Consumptive Water Use

Crop Type	CIR from WIG (in inches)	Estimated Irrigation Efficiency (Ea)	Annual TIR = CIR/Ea in inches	Acreage Irrigated	%CU from Ecology GUID 1210	CU = TIR × %CU in acre-feet
Apple trees with cover crop	31.67	67%	47.27 (3.94 ft.)	80.5	77%	244.2
Alfalfa	25.39	75%	33.85 (3.02 ft.)	159.1	85%	381.5

Total consumptive use = 625.7 acre-feet

For the purposes of groundwater preservation, instream flow in the secondary reach and mitigation to offset new consumptive uses, 625.7 acre-feet of water is made available. The remaining 332.7 acre-feet of this water right are considered return flows. Since there is no primary reach associated with this water right, the return flows will contribute to the river but are not protected instream flow.

Trust Water Management and Trust Water Place of Use

A Memorandum of Agreement (MOA) dated December 2011 between Ecology and the Quad Cities (The Cities of Pasco, Kennewick, Richland and West Richland in Benton County), stipulates that Ecology is obligated to provide a portion of needed mitigation water for Surface Water Permit S4-30976P. Approximately 64% of the consumptive portion of this water right purchased by Ecology (400 acre-feet) will be used to help fulfill its obligation to Quad Cities under the agreement. The Okanogan and Columbia Rivers will be the mechanism to transport the 400.0 acre-feet (consumptive) of trust water to the Quad Cities diversion points on the Columbia River annually. Additional benefits to this arrangement will include increased stream flow for over 200 miles of river from Tonasket to the Quad Cities diversion points on the Columbia River within the McNary Pool. The 400.0 acre-feet will be available to the Quad Cities in the following manor:

Table 5 – Instream Flow – Quad Cities Mitigation Portion (400.0 acre-feet)

Month	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
cfs	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	
acre-feet	33.97	30.68	33.97	32.88	33.97	32.88	33.97	33.97	32.88	33.97	32.88	33.97	**400.0**

The remaining 225.7 acre-feet of consumptive water made possible by the purchase of Ground Water Right G4-23992(A)C will be available for groundwater preservation and future mitigation needs in the Okanogan River Valley south of River Mile 56. If not used to mitigate ground or surface water withdrawals/diversions, this water will also contribute to instream flows.

Table 6 – Total Quantity of Water put in Trust (in acre-feet)

Trust Water Location	Consumptive Annual Quantity Qa	Non-consumptive (return flow) Quantity Qa	Total Qa = Consumptive + Non-consumptive
Instream	400	212.7	612.7
Groundwater Aquifer within WRIA 49 and/or Instream	225.7*	120.0	345.7
Total	**625.7**	**332.7**	**958.4**

***This quantity of trust water will contribute to the entire length of the secondary reach if not used for mitigation purposes within WRIA 49.

Impairment Considerations

Pursuant to RCW 90.42.040(4)(a) exercise of a trust water right may be authorized only if Ecology first determines neither water rights existing at the time the trust water right is established, nor the public interest will be impaired. Ecology must consider how the change in purpose and acceptance into the TWRP will affect an array of factors such as wildlife habitat, recreation, water quality, and human health. Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or count decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

When considering the potential for impairment of other water right holders due to this proposed change to trust water, Ecology considered possible impairment to intervening water users between the historic points of withdrawal and the diversion point on the Columbia River used by the Quad Cities in Benton County.

The water to be left instream and allowed to flow to the Quad Cities diversion point at McNary Pool on the Columbia River will carry the original priority date of the parent water right, June 11, 1975. Since the original permit issuance date of May 11, 1976 predates both the Okanogan and Columbia Rivers' instream flow rules, Chapters 173-549 and 173-563 WAC respectively, the instream flow trust water right resulting from this change will not be subject to the minimum flow rules. Water diverted from the

Columbia River mitigated by this trust water right may be diverted by the Quad Cities without detriment to other water users since it is "added" water to the river system. This trust water right will remain natural flow in both the aquifer of its origin and surface water in the local rivers. It is not anticipated to diminish the availability of water to other water users or designated minimum flows.

Consideration of Protests and Comments

No protests were received during the comment period specified in the public notice which ended on March 2, 2012. Richard Harris, a neighbor to the Pine Creek Orchards LLC property, inquired about how the trust water could be used in the future by Mr. Martin Pitney, the Manager of Pine Creek Orchards LLC, on or near the original POU. He was informed that, since the water was to be purchased by the state Trust Water Program, Mr. Martin Pitney would no longer have an interest in the right.

Consequently, the original place of use must be left fallow and no water applied to it unless the owner acquired a different water right for the POU.

Conclusions

In conclusion, the author makes a tentative determination is accordance with RCW 90.03.380, RCW 90.44.100 and RCW 90.42.040 that Water Right Certificate No. G4-23992(A)C represents a valid right to withdraw up to 958.4 acre-feet annually (625.7 acre-feet/yr consumptive and 332.7 acre-feet/yr non-consumptive) and the requested change can be made for the purposes previously stated without impairment to others given the following:

- Approval of this Trust Water Right application as provisioned will not enlarge the water right.
- Placing water right G4-23992(A)C into the TWRP for groundwater preservation and instream flows on the Okanogan and Columbia Rivers will not reduce the availability of water to intervening water users, provided Ecology protects only the consumptive portion of the historic water use.
- The transfer of 400.0 acre-feet annually (maximum of 0.55 cfs) to the Quad Cities, via the Okanogan and Columbia Rivers for the purpose of mitigation, is beneficial to river flows.
- An additional 225.7 acre-feet per year of water is available for mitigation of new uses within WRIA 49 only. If not used for mitigation, it will be considered instream flow for the entire secondary reach.
- There is no primary reach associated with this water right, therefore, 332.7 acre-feet per year of non-consumptive water will not be protected in the Trust Water Right Program.
- Permanent transfer of this water right to the TWRP for the purposes of instream flow enhancement, groundwater preservation and mitigation for out of stream purposes is beneficial and not detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for transfer of Change Authorization No. CG4-23992(A)C to the TWRP be approved in the amounts and within the limitations listed below. This change will be subject to the provisions listed on pages 2 and 3 of this Report of Examination.

Report by: _____ _____

Patricia Kirk
Office of Columbia River

Date

Table 6 – Attributes of New Trust Water Right – Change CG4-23992(A)C

Instantaneous Quantity (Qi)	Annual Quantity (Qa)	Place of use	Purpose of use
Total = 0.864 cfs	625.7 acre-feet	Okanogan and Columbia Rivers. Unconsolidated sedimentary aquifer in the main stem Okanogan River Valley.	Instream flow enhancement, groundwater preservation and mitigation for new and existing uses
0.552 cfs (maximum daily flow rate)	400.0 acre-feet	Okanogan and Columbia Rivers. Quad Cities will divert water from McNary Pool on the Columbia River.	Instream flow enhancement, Mitigation water supplied to the Quad Cities.
0.312 cfs (maximum daily flow rate for instream flow)	225.7 acre-feet	Unconsolidated sedimentary aquifer underlying the main stem Okanogan River Valley below River Mile 56 within WRIA 49, and the Okanogan and Columbia Rivers.	Groundwater preservation, instream flow enhancement, and mitigation for new and existing water uses.

- Primary Reach: None
- Secondary reach: Starting at river mile 51 on the Okanogan River continuing to its confluence with the Columbia River, then downstream on the Columbia River to its confluence with the Pacific Ocean. The total length of the secondary reach is 585 miles (51 miles of Okanogan River and 534 miles of Columbia River).

LEGAL DESCRIPTION FOR PROPERTY ON WHICH WATER WAS USES FOR IRRIGATION UNDER GROUNDWATER CERTIFICATE G4-23992(A)C

Within Township 37 North, Range 27E.W.M., Okanogan County, Washington;

In Section 7:
The NW¼NE¼, the W½SE¼SE¼;

In Section 8:
The S½SW¼;

In Section 17:
The SW¼NE¼;
The N½NE¼;
The NW¼;
The SW¼ north of road;
Excepting the POU described below for Certificate Nos. G4-23992(B) and G4-23992(C).

In Section 18:
The E½NE¼, SW¼NE¼, and the SE¼SW¼ of Section 18;
The W½NE¼NE¼, and that part of theNW¼SE¼ lying northeast of the centerline of the existing access road described as follows:
Beginning at a point on the south boundary line of the said NW¼SE¼ where the southeast corner of the said subdivision bears S 89°59'04" E a distance of 82.77 feet;
Thence running N 36°33'16" W a distance of 366.86 feet;
Thence on a curve to the left with a radius of 147.70 feet a delta angle of 62°42'47" for an arc length of 161.66 feet;
Thence S 80°44'57" W a distance of 90.06 feet;
Thence a curve to the right with a radius of 73.60 feet, a delta angle of 68°22'51" for an arc length of 87.84 feet;
Thence N 30°52'12" W a distance of 137.91 feet;
Thence N 15°14'30" W a distance of 123.46 feet;
Thence N 31°51'11" W a distance of 86.33 feet;
Thence on a curve to the left with a radius of 94.69 feet, a delta angle of 55°23'48" for an arc length of 91.55 feet;
Thence on a curve to the right with a radius of 181.57 feet, a delta angle of 114°59'56" and an arc length of 364.43 feet;
Thence N 27°44'58" E a distance of 105.93 feet;
Thence N 10°47'03" E a distance of 238.30 feet to the north boundary line of said NW¼SE¼;
Excepting the POU described below for Certificate Nos. G4-23992(B) and G4-23992(C).

Except the following described under Ground Water Right Certificate No. G4-23992(B)C:
The SE¼SE¼ of the Section 6;
The E½NE¼, N½SE¼, and the E½SE¼SE¼ of Section 7;
The SE¼NE¼ and the E½NE¼NE¼ of Section 18;
The south 800 feet of the west 40 feet of the SW¼NW¼ of Section 8; and,

Except the following described under Ground Water Right Certificate No. G4-23992(C)C:
All that portion of the E½SE¼ of Section 18 lying north of Okanogan County Road No. 9410; and,
A portion of the W½ of Section 17 described as follows:
Beginning at the NW corner of Section 17;
Thence N 89°49'17" E on the north boundary line of said Section 17 a distance of 1,064.06 feet;
Thence S 52°09'58" E a distance of 785.06 feet;

Thence S 40°43’43” E a distance of 754.30 feet;
Thence S 32°48’06” W a distance of 703.75 feet;
Thence S 16°19’49” E a distance of 1,604.44 feet;
Thence S 76°12’26” E a distance of 427.33 feet to the SE corner of the N½NE¼SW¼ of said Section 17;
Thence S 89°33’48” W on the south boundary of the N½N½SW¼ a distance of 2,646.60 feet to the west boundary line of Section 17;
Thence N 00°15’10” W on said west boundary line a distance of 3,303.15 feet to the point of beginning.

And;

A part of the SE¼NW¼ and a part of the SW¼NE¼ of Section 17 described as follows:
Commencing at the NW corner of the SW¼NE¼ of Section 17;
Thence S 04°43’18” E a distance of 86.02 feet to the true point of beginning;
Thence N 89°59’30” E a distance of 655.89 feet;
Thence S 28°21’31” E a distance of 251.48 feet;
Thence S 05°07’10” W a distance of 633.51 feet;
Thence S 88°53’21” W a distance of 655.46 feet;
Thence N 53°18’40” W a distance of 253.81 feet;
Thence N 05°21’42” E a distance of 607.36 feet;
Thence N 37°30’29” E a distance of 136.83 feet to the true point of beginning;

And;

The SW¼ of section 17 lying north of Okanogan County Road No. 9410; Except that portion of the SW¼ lying north of Okanogan County Road No. 9410, described as follows:
Commencing at the SW corner of Section 17;
Thence N 00°15’10” W a distance of 1,938 feet along the section line common to Section 17 and 18;
Thence S 83°56’10” E a distance of 312.3 feet to the initial point of this description, which is an aluminum cylinder 2.7 inches by 14 inches in a pile of stone and earth marked Monument No. 7 I.P.;
Thence S 83°56’10” E a distance of 911.8 feet to a 4 inch round steel fence post;
Thence S 23°27’10” E a distance of 349.4 feet to the intersection of the north boundary of Okanogan County Road No. 9410, which is S 23°43’10” E a distance of 14.7 feet to a 4 inch round steel fence post;
Thence N 74°05’10” W a distance of 31.4 feet along the north right of way to Station 38+88.1;
Thence along a 20 degree curve with a radius of 306.5 feet for a distance of 180.5 feet to Station 40+56.8;
Thence S 72°32’50” W a distance of 383.2 feet to station 44+40.0;
Thence along a 10 degree curve with a radius of 593 feet for a distance of 72.3 feet;
Thence S 65°33’50” W a distance of 153.6 feet;
Thence leaving the north road right of way N 23°05’00” W a distance of 668.6 feet to the initial point of this description.

All in Township 37 North, Range 27E.W.M., Okanogan County, Washington.